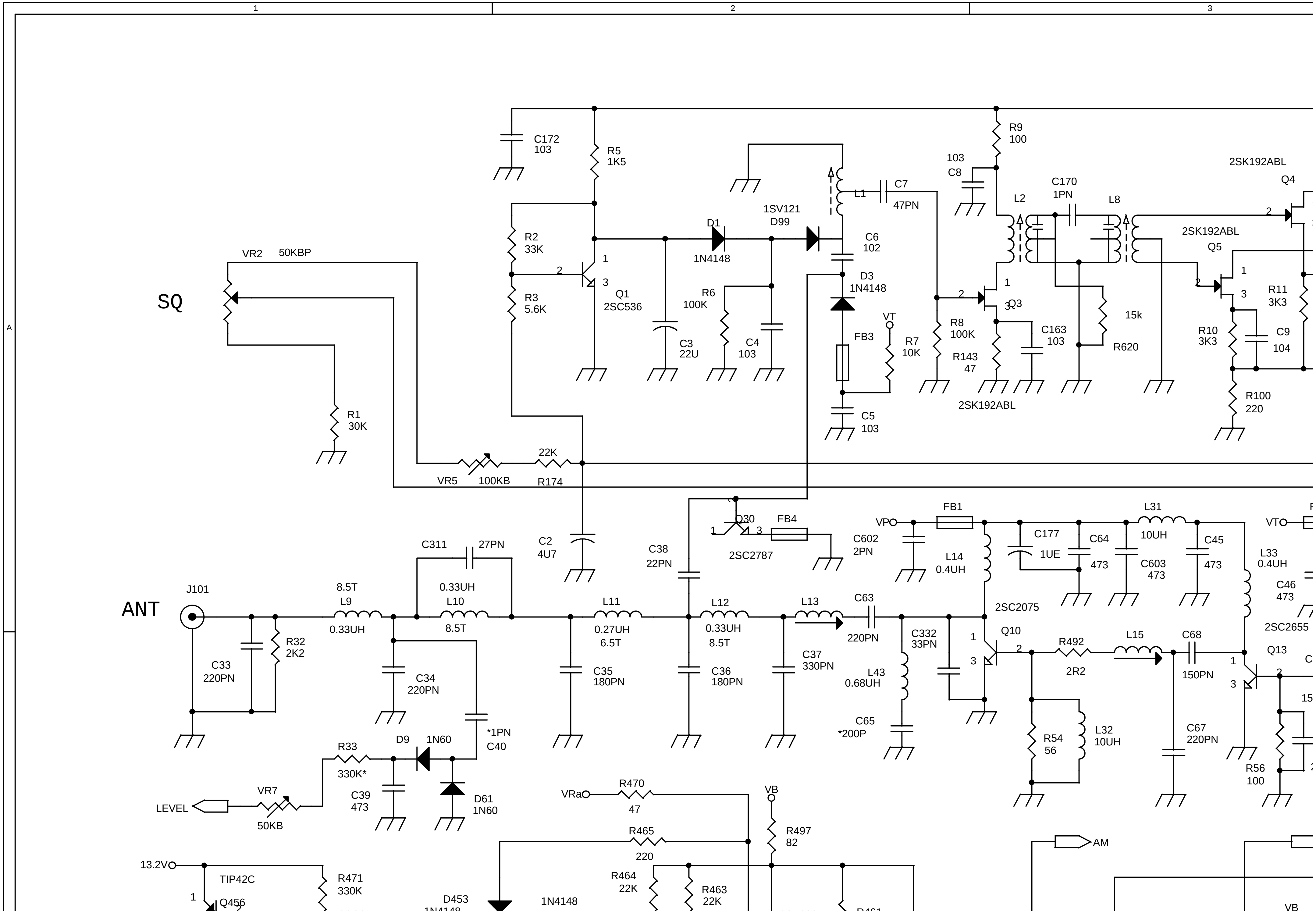
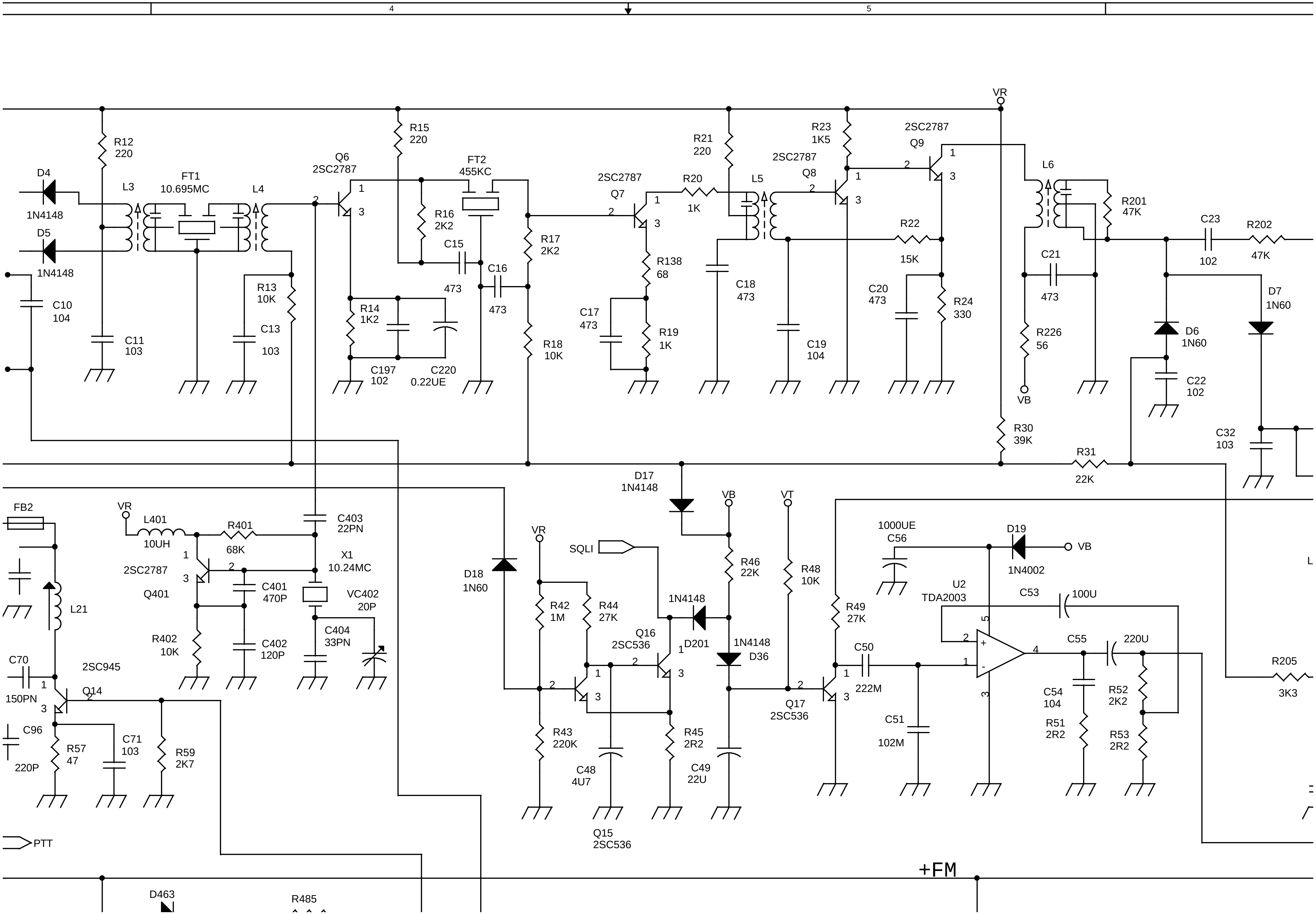
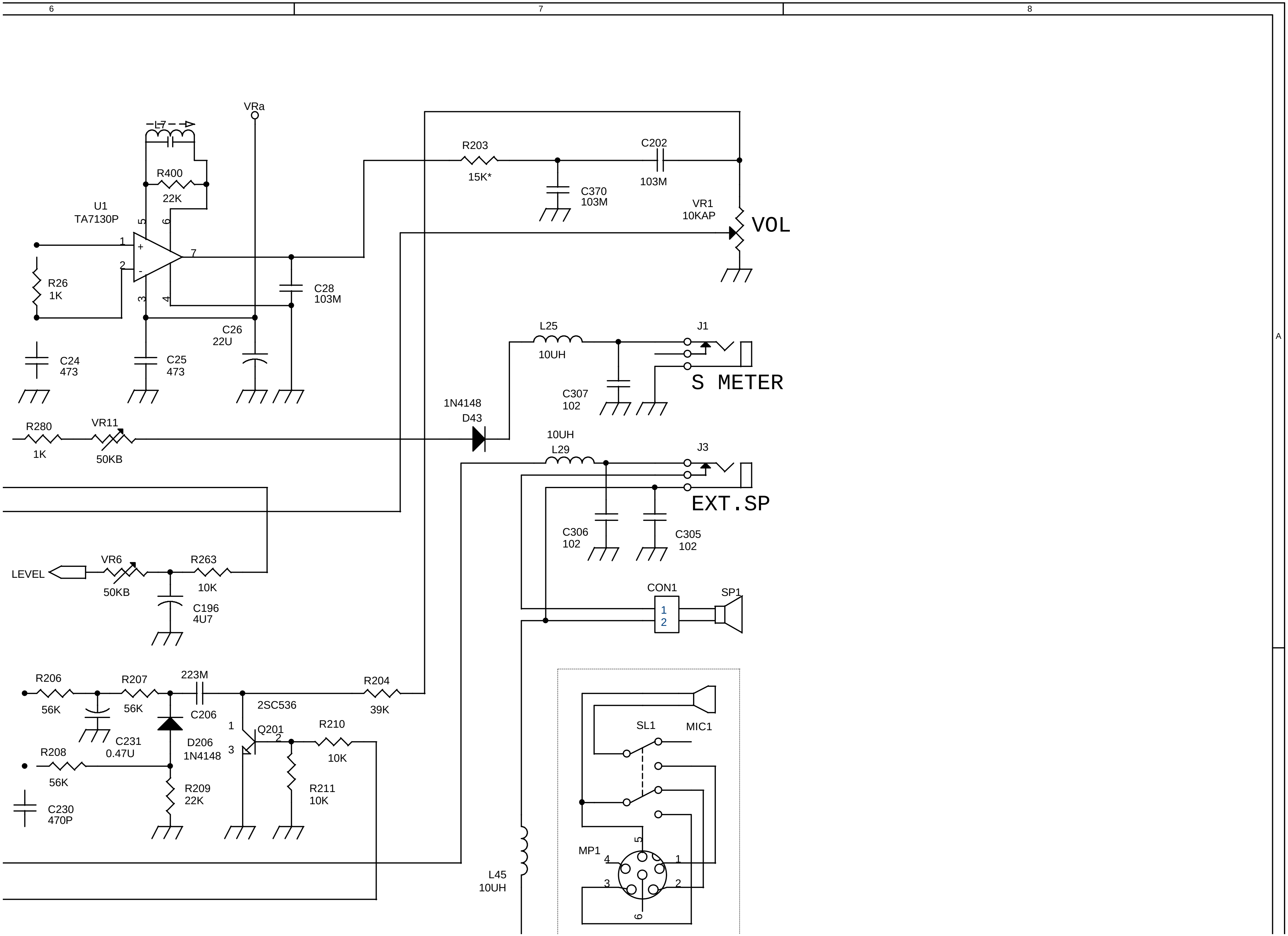
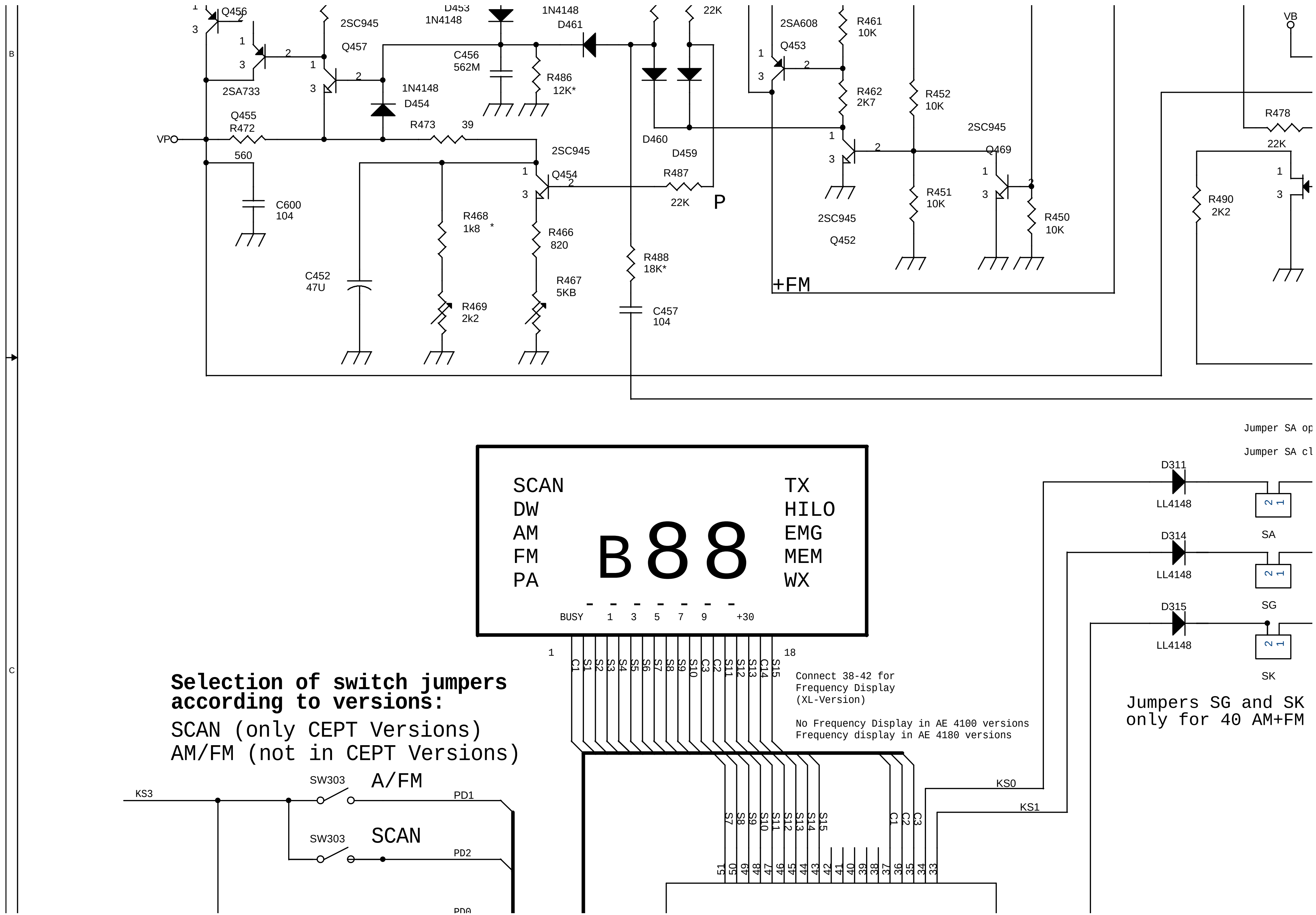


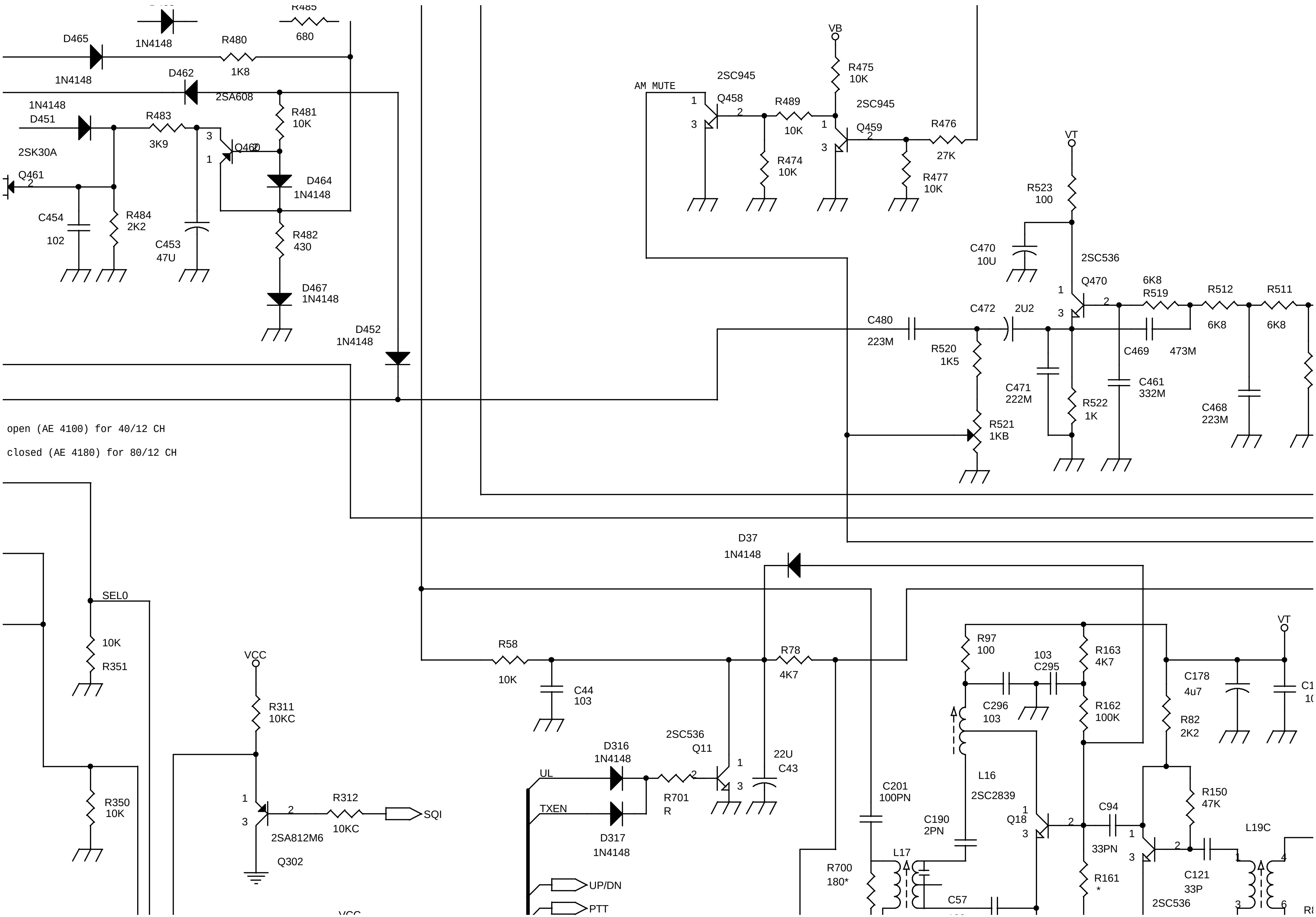
1
2
3
A
SQ
VR2
50KBP
R1
30K
C172
103
R5
1K5
R2
33K
R3
5.6K
Q1
2SC536
D1
1N4148
C3
22U
R6
100K
C4
103
1SV121
D99
L1
C7
47PN
C6
102
D3
1N4148
FB3
VT
R7
10K
C5
103
R9
100
103
C8
L2
C170
1PN
L8
R8
100K
R143
47
C163
103
15k
R620
2SK192ABL
Q3
2SK192ABL
Q4
2SK192ABL
Q5
R11
3K3
R10
3K3
C9
104
R100
220
VR5
100KB
22K
R174
C2
4U7
Q30
2SC2787
FB4
C38
22PN
VP
FB1
C602
2PN
L14
0.4UH
C177
1UE
C64
473
C603
473
L31
10UH
C45
473
VT
L33
0.4UH
C46
473
2SC2655
ANT
J101
C33
220PN
R32
2K2
8.5T
L9
0.33UH
C311
27PN
0.33UH
L10
8.5T
C34
220PN
*1PN
C40
L11
0.27UH
6.5T
C35
180PN
L12
0.33UH
8.5T
C36
180PN
L13
C37
330PN
C63
220PN
L43
0.68UH
C65
*200P
C332
33PN
2SC2075
Q10
R492
2R2
L15
C68
150PN
Q13
R54
56
L32
10UH
C67
220PN
R56
100
R33
330K*
D9
1N60
C39
473
D61
1N60
LEVEL
VR7
50KB
VRa
R470
47
R465
220
VB
R497
82
R464
22K
R463
22K
13.2V
TIP42C
Q456
R471
330K
D453
1N4148
AM
VB


4
5
VR
R12
220
D4
1N4148
D5
1N4148
L3
FT1
10.695MC
L4
Q6
2SC2787
R15
220
FT2
455KC
R16
2K2
C15
473
C16
473
R17
2K2
R18
10K
R13
10K
C13
103
C10
104
C11
103
R14
1K2
C197
102
C220
0.22UE
2SC2787
Q7
R20
1K
R138
68
C17
473
R19
1K
R21
220
L5
C18
473
2SC2787
Q8
C19
104
R23
1K5
R22
15K
C20
473
R24
330
2SC2787
Q9
L6
R201
47K
R226
56
C21
473
VB
C23
102
R202
47K
D6
1N60
D7
1N60
C22
102
R30
39K
R31
22K
C32
103
D17
1N4148
VB
VT
FB2
VR
L401
10UH
R401
68K
C403
22PN
X1
10.24MC
2SC2787
Q401
C401
470P
VC402
20P
C404
33PN
R402
10K
C402
120P
L21
C70
150PN
2SC945
Q14
C96
220P
R57
47
C71
103
R59
2K7
PTT
D18
1N60
VR
SQLI
R42
1M
R44
27K
Q16
2SC536
1N4148
D201
R43
220K
R45
2R2
C48
4U7
Q15
2SC536
R46
22K
1N4148
D36
C49
22U
R48
10K
R49
27K
Q17
2SC536
1000UE
C56
D19
1N4002
VB
U2
TDA2003
C53
100U
C50
222M
C51
102M
C55
220U
C54
104
R51
2R2
R52
2K2
R53
2R2
R205
3K3
+FM
D463
R485

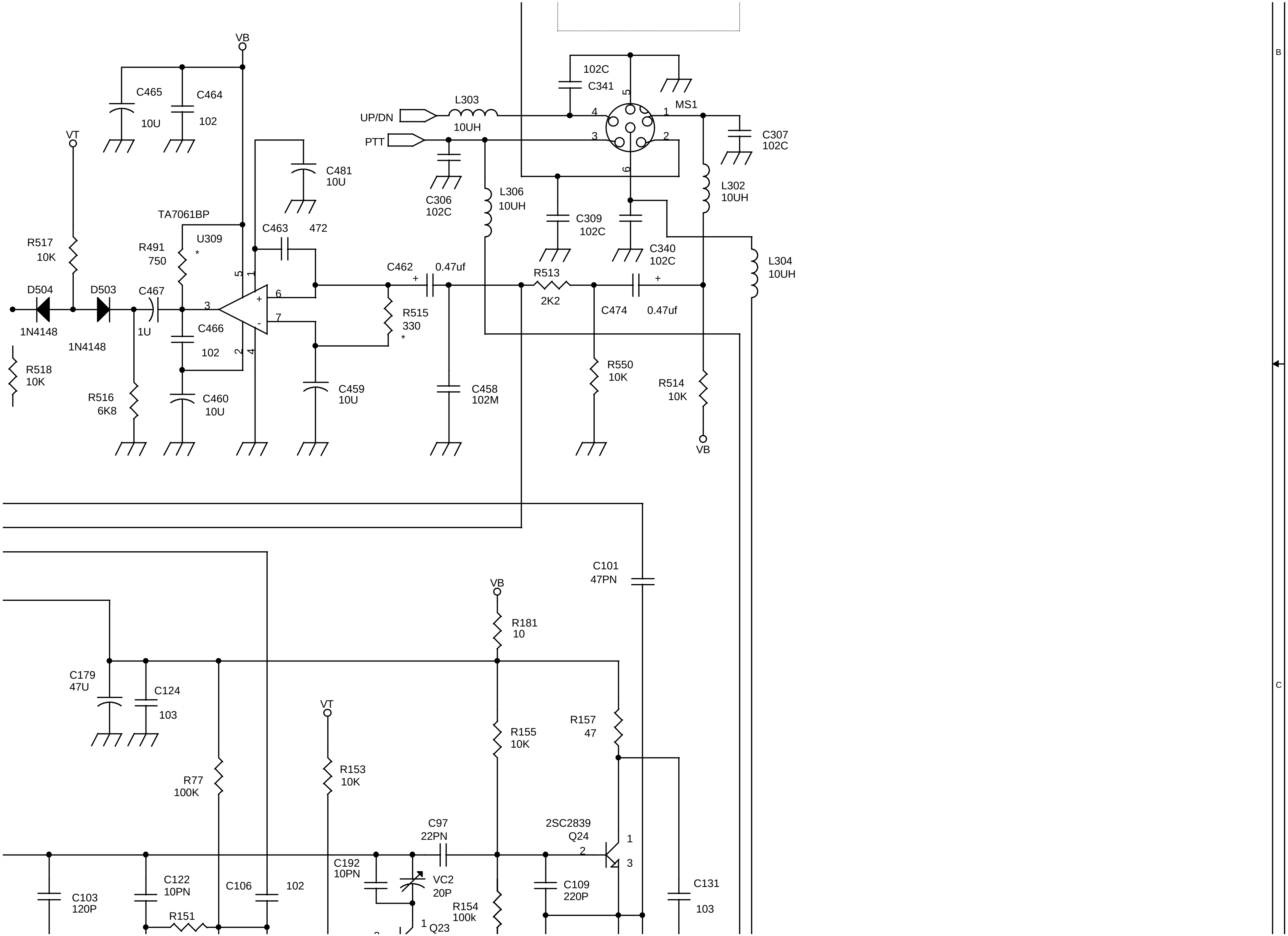


6
7
8
A
VRa
L7
R400
22K
U1
TA7130P
R26
1K
C24
473
C25
473
C26
22U
C28
103M
R203
15K*
C370
103M
C202
103M
VR1
10KAP
VOL
L25
10UH
J1
C307
102
S METER
1N4148
D43
R280
1K
VR11
50KB
10UH
L29
J3
EXT.SP
C306
102
C305
102
LEVEL
VR6
50KB
R263
10K
C196
4U7
CON1
SP1
R206
56K
R207
56K
223M
C206
R204
39K
2SC536
Q201
R210
10K
C231
0.47U
D206
1N4148
R208
56K
R209
22K
R211
10K
C230
470P
SL1
MIC1
MP1
L45
10UH

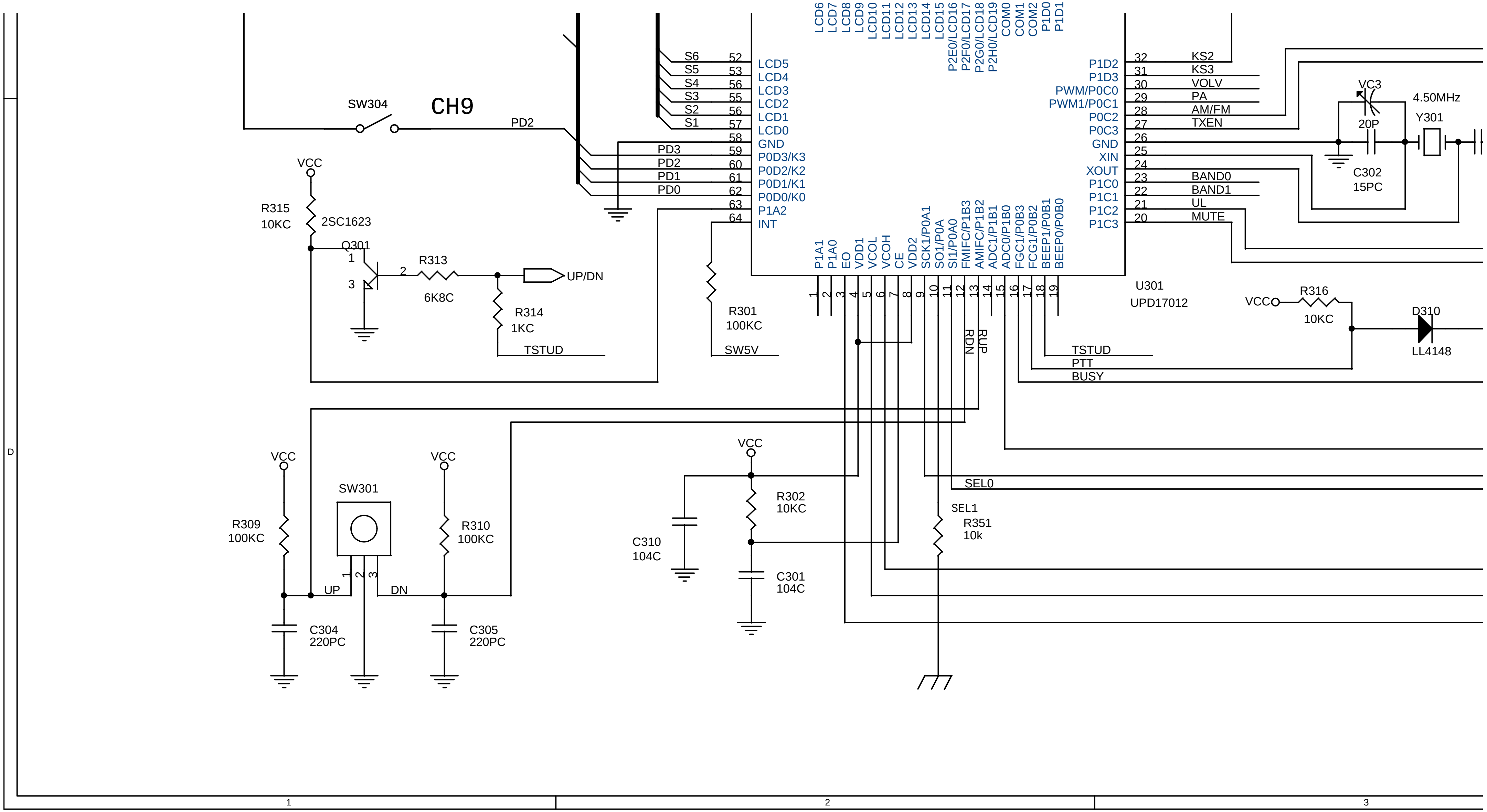

Q456
2SC945
D453
1N4148
1N4148
D461
22K
2SA608
R461
10K
VB
Q457
C456
562M
R486
12K*
Q453
R462
2K7
R452
10K
2SA733
1N4148
D454
Q455
R472
VP
R473
39
2SC945
R478
22K
560
2SC945
D460
D459
Q469
Q454
R487
22K
P
C600
104
R468
1k8
R466
820
R451
10K
R450
10K
R490
2K2
2SC945
Q452
R488
18K*
C452
47U
R467
5KB
+FM
R469
2k2
C457
104
Jumper SA op
Jumper SA cl
D311
LL4148
SA
D314
LL4148
SG
D315
LL4148
SK
SCAN
DW
AM
FM
PA
B88
TX
HILO
EMG
MEM
WX
BUSY 1 3 5 7 9 +30
1
18
C1 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 C3 C2 S11 S12 S13 C14 S15
Connect 38-42 for
Frequency Display
(XL-Version)
No Frequency Display in AE 4100 versions
Frequency display in AE 4180 versions
Jumpers SG and SK
only for 40 AM+FM
Selection of switch jumpers
according to versions:
SCAN (only CEPT Versions)
AM/FM (not in CEPT Versions)
KS3
SW303
A/FM
PD1
SW303
SCAN
PD2
PD0
KS0
KS1
S7 S8 S9 S10 S11 S12 S13 S14 S15
C1 C2 C3
51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33



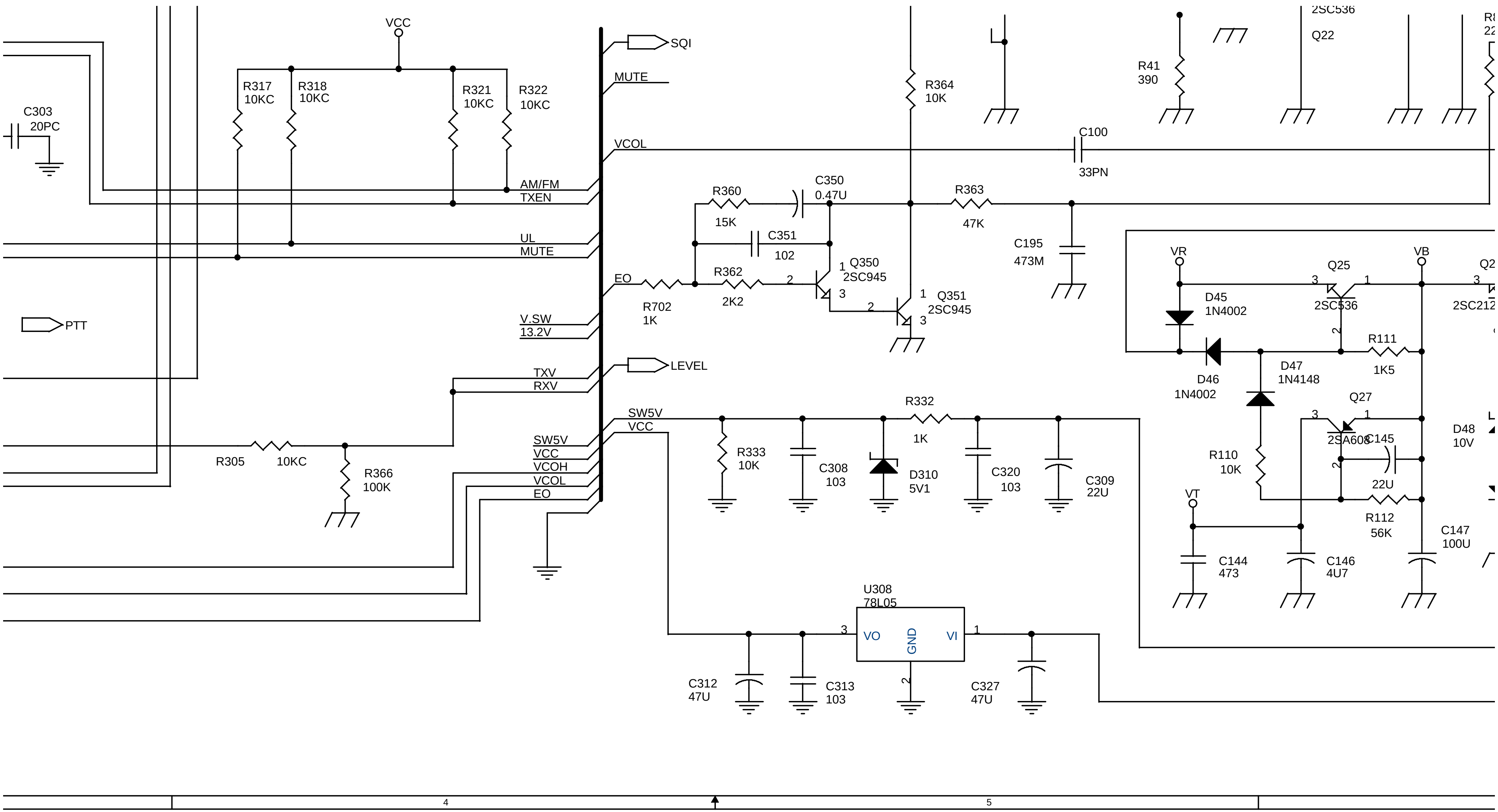
R485
680
D465
1N4148
1N4148
R480
1K8
D462
2SA608
1N4148
D451
R483
3K9
Q460
R481
10K
2SK30A
Q461
D464
1N4148
C454
102
R484
2K2
C453
47U
R482
430
D467
1N4148
D452
1N4148
AM MUTE
2SC945
Q458
R489
10K
R474
10K
VB
R475
10K
2SC945
Q459
R476
27K
R477
10K
VT
R523
100
C470
10U
2SC536
Q470
6K8
R519
R512
6K8
R511
6K8
C480
223M
C472
2U2
R520
1K5
C469
473M
C471
222M
C461
332M
R522
1K
C468
223M
R521
1KB
open (AE 4100) for 40/12 CH
closed (AE 4180) for 80/12 CH
D37
1N4148
SEL0
10K
R351
R350
10K
VCC
R311
10KC
2SA812M6
Q302
R312
10KC
SQI
R58
10K
C44
103
D316
1N4148
UL
TXEN
D317
1N4148
R701
R
2SC536
Q11
22U
C43
R78
4K7
C201
100PN
R700
180*
L17
C190
2PN
C57
R97
100
103
C295
C296
103
L16
2SC2839
Q18
R163
4K7
R162
100K
C94
33PN
R161
*
VT
C178
4u7
R82
2K2
R150
47K
L19C
C121
33P
2SC536
UP/DN
PTT
VCC



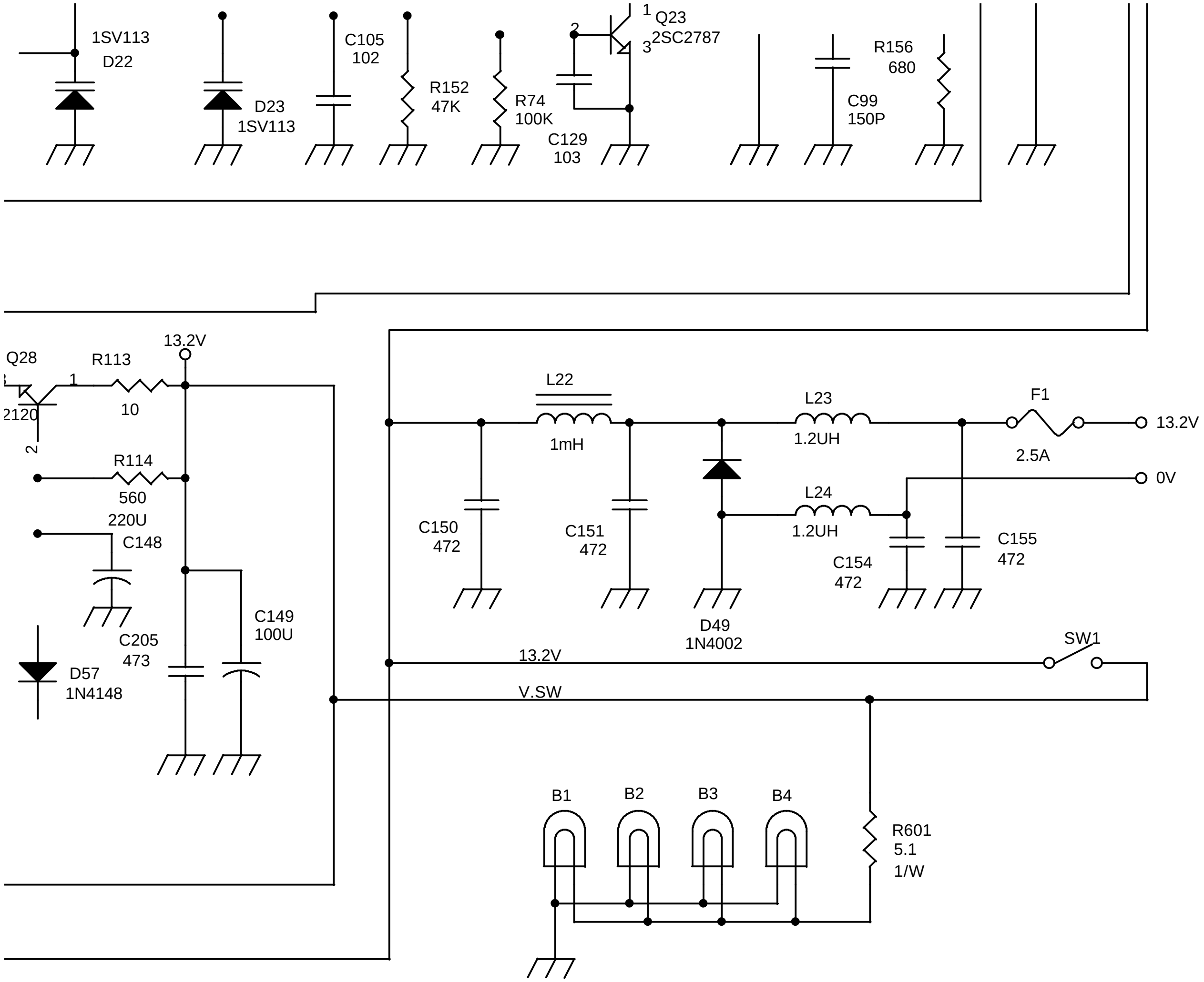
VB
C465
10U
C464
102
VT
TA7061BP
U309
R491
750
R517
10K
D504
D503
C467
1N4148
1N4148
1U
C466
102
R518
10K
R516
6K8
C460
10U
C481
10U
C463
472
C459
10U
C462
0.47uf
R515
330
C458
102M
UP/DN
PTT
L303
10UH
C306
102C
L306
10UH
102C
C341
MS1
C307
102C
L302
10UH
C309
102C
C340
102C
L304
10UH
R513
2K2
C474
0.47uf
R550
10K
R514
10K
VB
B
C
C101
47PN
VB
R181
10
C179
47U
C124
103
R77
100K
VT
R153
10K
R155
10K
R157
47
2SC2839
Q24
C97
22PN
C192
10PN
VC2
20P
R154
100k
Q23
C109
220P
C131
103
C103
120P
C122
10PN
C106
102
R151



U301
UPD17012
SW304
CH9
PD2
VCC
R315
10KC
2SC1623
Q301
R313
6K8C
UP/DN
R314
1KC
TSTUD
R301
100KC
SW5V
S6
S5
S4
S3
S2
S1
PD3
PD2
PD1
PD0
LCD5
LCD4
LCD3
LCD2
LCD1
LCD0
GND
P0D3/K3
P0D2/K2
P0D1/K1
P0D0/K0
P1A2
INT
P1D2
P1D3
PWM/P0C0
PWM1/P0C1
P0C2
P0C3
GND
XIN
XOUT
P1C0
P1C1
P1C2
P1C3
KS2
KS3
VOLV
PA
AM/FM
TXEN
BAND0
BAND1
UL
MUTE
VC3
20P
4.50MHz
Y301
C302
15PC
R316
10KC
D310
LL4148
PTT
BUSY
RDN
RUP
SEL0
SEL1
R351
10k
R302
10KC
C310
104C
C301
104C
SW301
R309
100KC
R310
100KC
UP
DN
C304
220PC
C305
220PC



VCC
SQI
MUTE
VCOL
AM/FM
TXEN
UL
MUTE
EO
V.SW
13.2V
TXV
RXV
LEVEL
SW5V
VCC
VCOH
VCOL
EO
PTT
C303
20PC
R317
10KC
R318
10KC
R321
10KC
R322
10KC
R305
10KC
R366
100K
R364
10K
C100
33PN
R360
15K
C350
0.47U
C351
102
R362
2K2
R702
1K
Q350
2SC945
Q351
2SC945
R363
47K
C195
473M
R41
390
Q22
2SC536
VR
VB
VT
Q25
2SC536
D45
1N4002
D46
1N4002
D47
1N4148
R111
1K5
Q27
2SA608
C145
22U
R110
10K
R112
56K
C144
473
C146
4U7
C147
100U
D48
10V
2SC212
R332
1K
R333
10K
C308
103
D310
5V1
C320
103
C309
22U
U308
78L05
VO
GND
VI
C312
47U
C313
103
C327
47U
4
5



Version differences:

AE 4100 : without Frequency display

AE 4180: with CH + Frequency display

40 Channels AM + FM
B, F, NL, E, P, CH, FIN

AE 4180 80/12:
80 CH FM, 12 CH AM
D-only

AE 4100 40/12:
40 CH FM, 12 CH AM
D-only

CEPT-PR 27
Versions:
40 CH FM only
All Countries

ALBRECHT

Title	AE4100 Sept97 / AE 4180		
Size D	Document Number 41XXD-1.SCH		Rev
Date:	Thursday, July 23, 1998	Sheet 1 of 1	

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